



Saving My Shoulder

How to avoid a shoulder replacement



Find out if biologic solutions to rebuild your shoulder can keep you active and help you avoid a shoulder replacement.



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About The Stone Clinic

The Stone Clinic in San Francisco, California is at the forefront of orthopaedic surgery. Headed by world-renowned orthopaedic surgeon, Kevin R. Stone MD, we have spent 30 years pioneering and refining minimally-invasive, biologic treatments to fulfill our mission of keeping athletes active for life.

Every injury is different, every individual unique. We see osteoarthritis not as an incurable disease but as a fixable condition, which is why we design comprehensive, customized treatment programs for each patient to stop the pain and return them to full activity.

We regenerate and rebuild, rather than replace with metals and plastics, using innovative surgical interventions to preserve as much of the natural biology of the joint as possible, often rebuilding with donor tissue to give our patients natural-feeling, long-lasting outcomes that avoid or delay the need for joint replacement.

Our world-class physical therapy and rehabilitation team is onsite and will be with you every rep of your recovery, managing the pace and quality of your outcome with supervision from the operating surgeon, to ensure you return to sports faster, fitter, and stronger than before your injury.



Meet Dr. Stone

(Guide Author)

Kevin R. Stone, MD an orthopaedic surgeon at The Stone Clinic and also the Chairman of the Stone Research Foundation. He is a pioneer of advanced orthopaedic surgical and rehabilitation techniques to repair, regenerate, and replace damaged cartilage and ligaments and a leader in outpatient robotic surgery for joint replacements.

Dr. Stone lectures around the world as an expert in cartilage and meniscal growth, replacement, and repair and holds over 50 U.S. patents on novel inventions to improve healthcare.

Dr. Stone uses anabolic therapy and other biologic techniques to work to preserve the natural biology of a joint, helping people avoid or delay an artificial joint replacement.

He is one of the world's leading experts in minimally-invasive, biologic orthopaedic techniques. For over 30 years, he and his team have specialized in helping people regain motion, reduce pain, and return to sports.

[Learn more about Dr. Stone](#)



[Book a Complimentary Phone Consultation](#)



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Why rebuild a shoulder naturally? Can I avoid a shoulder replacement?

It doesn't have to be this way

There are alternatives to treating shoulders, which can help delay or avoid a shoulder replacement. Fixing injuries early can help avoid problems especially with the labrum tears and rotator cuff injuries which can lead to chronic pain, weakness, and instability. Our goal is to rebuild tissues to allow patients to return to recreational activities and sports.

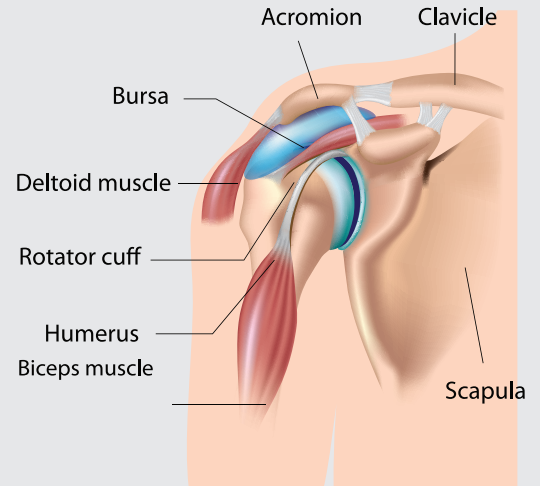
Small injuries can trigger big problems

Due to the shoulder's complexity and the demand we put on our joints, shoulders are commonly injured. An injury, even a small labrum or tendon tear, can easily begin a cascade of problems, which unless treated, ultimately results in loss of motion and osteoarthritis.

Decades of pain and loss of motion is unacceptable

Most patients diagnosed with shoulder arthritis are told that nothing can be done. They are told to take pain medication and anti-inflammatories, perform range of motion exercises, cut back on their activities, and essentially wait until the arthritis is bad enough to warrant a shoulder replacement. Although a shoulder replacement can be a godsend after years of agony, surgeons are reluctant to perform these replacements on people younger than 60 because the parts may not last. Subsequent replacements are more complex and more difficult to achieve a great result. This can often mean an unacceptable number of years of pain between first developing arthritis and finally having a shoulder replacement.

Years waiting for a new shoulder is no way to live. An artificial shoulder replacement is certainly not a perfect solution; moreover, in many instances, it can be avoided along with the pain of waiting.



SHOULDER ANATOMY

The shoulder is a remarkable construction. It is a ball and socket joint, so it moves in multiple planes. It can withstand forces up to multiple times your bodyweight. The humerus or upper arm bone rotates on the glenoid or socket of the broad scapula bone resting on your chest wall. In addition, the clavicle is a bone attaching through a joint called the acromioclavicular joint (AC) to the bony acromion on the top of the shoulder.

Four major tendons comprise the rotator cuff and attach the upper arm to the scapula on the chest wall. The large deltoid muscle covers the outside of the joint. There are two types of cartilage in your shoulder; the first is the labrum which, like a meniscus in the knee joint, is made of fibrocartilage and stabilizes the shoulder. The second type of cartilage is articular cartilage, which covers and protects the ends of your bones allowing them to move smoothly.



Injections

Injections of lubricating hyaluronic acid and growth factors from amniotic fluid and blood (PRP) are a part of almost all the shoulder treatments today as there is early evidence that they speed healing and improve outcomes by recruiting stem cells to the site of your injury.

Biologic solutions can help right away

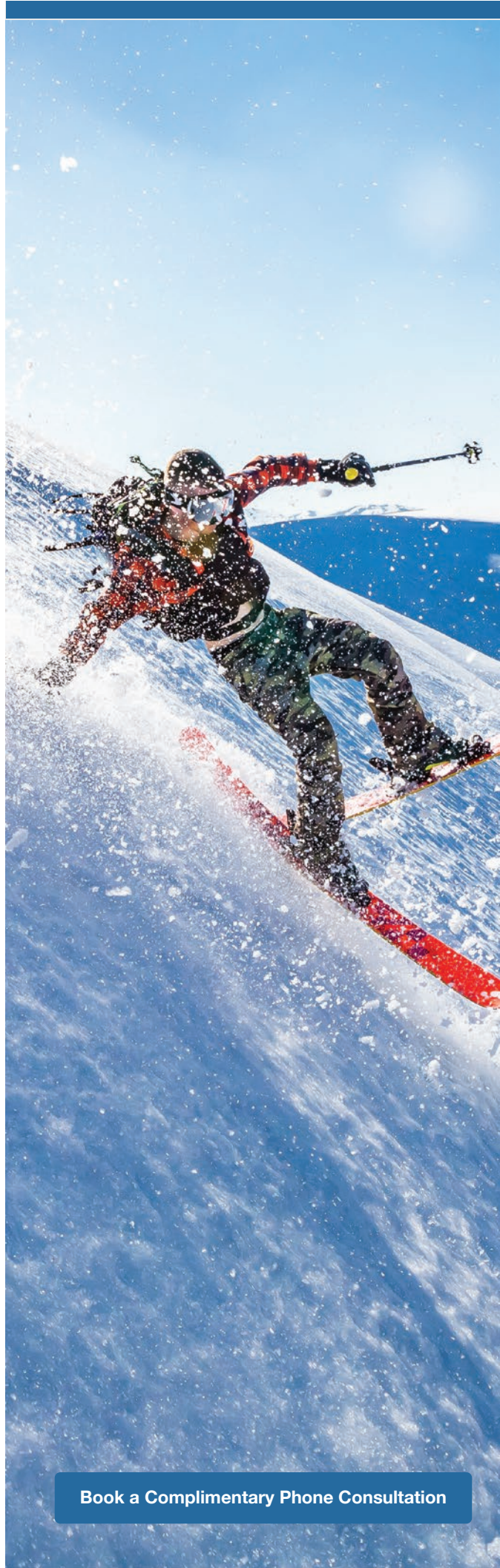
Instead of telling our patients with damaged shoulders to hang in there until they're ready for a total shoulder replacement, we like to begin pain-relieving treatment immediately, by repairing their shoulder joint as soon as possible.

What is the Stone Shoulder Program?

Our shoulder program of biologic treatments is designed to restore full function as soon as an injury is diagnosed. It starts with careful physical exam, X-rays, and MRIs to assess the source of pain and tissue injuries and which treatments may be indicated to help regain function and reduce pain. Physical therapy and fitness training is provided to increase range of motion and optimize function. Listed below are surgical treatments that comprise our Stone Shoulder Program.

Shoulder instability

Falls onto outstretched arms are the most common cause of shoulder dislocations. Some people are naturally loose and unstable in their shoulders, but most people with shoulder instability have experienced an injury. It is impossible to dislocate the shoulder without stretching and/or tearing the gasket called the labrum that keeps the shoulder in its socket. Once torn, they often don't heal without surgical repair. Fortunately, the outpatient arthroscopic labrum repair techniques have improved so much that once repaired most people return to full sports without limitations. Left alone, however, especially in our surfers, kayakers, and skiers; the risk of a second dislocation occurring in a dangerous location is too high. Thus, we almost always repair the torn labrum, combining the repair with bioactive factor injections to accelerate healing as soon as it is injured.



Frozen shoulder

Severe limitations of shoulder motion can be associated with injury, inflammatory arthritis, thyroid disease, or diabetes. Some of these are best treated with early surgical debridement of built-up scar tissue, injections of bioactive factors to reduce inflammation and scar tissue as well as to recruit stem cells, and a guided early exercise program focusing on range of motion, stability, and strength training.

Rotator cuff tears and impingement

The four tendons of the rotator cuff attach muscles to the humerus and guide the upper arm motion. The tendons can become inflamed due to abnormal use, bony impingement from an arthritic AC joint, or a spur on the undersurface of the bones. If the inflammation lasts long enough, the cuff tendons become weakened and may tear. Torn rotator cuffs from impingement or a fall on an outstretched arm lead to pain, poor arm mechanics, and eventually arthritis.

The treatments start with a careful diagnosis made by history, physical exam, X-rays and MRIs with a biomechanical assessment made by Dr. Stone and the rehabilitation team. If the issue is inflammation alone without significant tearing, bioactive injections combined with a rehabilitation program often can solve the problems. Sometimes the inflamed tissue and any underlying bone spurs are best removed with an arthroscopic procedure called subacromial decompression. In this procedure a heating wand and shaver are used to smooth the undersurface of the acromion, open the AC joint, and trim the swollen bursa. The best course for partial tears of the rotator cuff depends on just how large the tear is and where it is located. Injections may be enough or percutaneous repair may be required. Full tears, especially when night pain is involved, most often require a repair for the optimal outcome. The repairs are performed arthroscopically as an outpatient procedure and are followed immediately with a careful rehabilitation program focused on scapular stabilization exercises, core exercises, cardiovascular training on stationary bikes, and other rehabilitation tools. Rotator cuff strengthening exercises are phased in after healing is confirmed.

Arthritis and articular cartilage repair

Articular cartilage injuries and arthritic changes in the shoulder are treatable. The science regarding shoulder cartilage injuries has lagged behind the science for the knee, however, the same treatments can now be applied. The bone spurs can often be removed and the articular cartilage in some areas can be treated using our articular cartilage paste graft technique. The grafting technique involves the harvest of articular cartilage and the underlying bone from the bone spurs or, if there is not enough from the knee joint, morselizing the damaged articular cartilage and then packing the graft into the defect.





This procedure is followed by four weeks of CPM motion and then four to six months of careful rehabilitation program focusing on soft-tissue mobilization to restore to full range of motion and strength. Widespread shoulder arthritis with loss of joint space is best treated with artificial joint replacement eventually. Focal areas of damaged articular cartilage in the shoulder may be successfully treated to form a repair tissue.

Clavicle fractures

Clavicle fractures can heal on their own when they are not too severely displaced or overlapped. The use of plates and screws to repair the displaced fractures has been the most common technique used around the world, yet has significant complications and requires an extensive open surgery to place and remove them. The Stone Shoulder Program uses an intramedullary screw in most cases to place a screw down the bore of the clavicle, aligning and compressing it. This screw can be removed with a simple small incision at the back of the shoulder after healing.

Is a Stone Shoulder Program right for me?

We will be able to assess your personal treatment options only by taking a detailed history of your injury and symptoms, carefully analyzing your recent (within 1 year) MRIs and x-rays, and finally examining you. However, it may be helpful for you to know what comes into play when deciding whether a biologic solution is right for you. Here's what we consider:

1 Your injury history

Damage to the articular cartilage (the soft surface protecting the ends of your bones) or acute tears of either the ligaments (which connect the bones) or the labrum (the shoulder's stabilizing gasket) usually occurs from a fall. These acute injuries can most commonly be repaired. The patient can then return to full activities after appropriate rehabilitation has been completed. We have learned that the success rates of primary repair increase when the injury is treated promptly.

If your shoulder injury occurred years or even decades ago, and you have lived with the pain, or have had multiple previous surgical interventions attempting to repair or resect the damaged tissues of the joint, you may need a more complex procedure combining biologic or bionic solutions.



Rich L,
CrossFit Athlete

Treatment: *Rotator cuff repair Left*
January 2016, Shoulder decompression
Right August 2016

Rich is an extreme athlete training daily and eventually competing in the CrossFit World Games. At age 57 in 2014, he presented after 5 years of chronic shoulder issues with weakness of his two key tendons the supraspinatus and the subscapularis with 25% loss of motion. He had pain with overhead lifting. He was treated with growth factor injections from his blood (PRP) and physical therapy at The Stone Clinic from which he obtained two years of relief.

In 2016, he presented with a left rotator cuff complex tear, a labral tear, and bursitis. He underwent a Stone Shoulder Program rotator cuff repair and debridement followed by bioactive factors injections and our rehabilitation program. He had essentially a perfect outcome with full motor power and nearly full motion at three months post-surgery.

As a CrossFit athlete, he ignored our caution and then presented after performing 75 muscle "cleans" at 20 kilos followed by a "renegade row". He admitted to doing 30 lbs of weight 30 repetitions for each exercise on a daily basis. He had biceps tendonitis which was treated with a bioactive factor injection and words of caution. At four months, he presented fully healed. At six months, he had a new injury to his right shoulder during a "heavy dumbbell bench press." He felt a tear. He underwent a right shoulder rotator cuff repair in August of 2016 and Rich has since returned to high-level CrossFit competitions without shoulder limitations.

We note: this is an extreme athlete and an extreme example of what can be done. We learn from this what is possible. Many people, however, have limited healing ability with degenerative tissue, weakened bones, and musculature. They require a much slower rehabilitation process.

2 Your current symptoms

A common scenario for our patients is that they injured their shoulder from a fall and either present acutely or have lived with it hoping it would heal on its own. Their symptoms are often intermittent pain, loss of motion, pain at night when rolling over onto it, or instability. Displaced clavicle fractures present with pain and deformity. And are immediately treated usually with our intramedullary screw technique avoiding plates and screws.

X-rays and MRIs are particularly helpful to determine whether or not the damage inside the shoulder is in one portion of the joint or extensive throughout. Procedures such as labrum and tendon repair or cartilage repair can often be performed as long as there is space available, meaning that the joint is not completely bone-on-bone.

3 Your goals

Your goals play a vital role in determining which procedures should be performed. Ideal candidates for repair of acutely injured tissues are people who would like to get back to sports and who can take the time to do the ideal rehabilitation. We find that people whose goals are to stay active into their old age are motivated to prevent future osteoarthritis by repairing the injured tissues.

4 Your approach to recovery

The accuracy of the surgical procedure is extremely important to a successful outcome but equally important is your personal commitment to the rehabilitation program. Most patients who have had arthritic shoulders or loss of motion over the years have developed weakness in their entire upper body and core muscles due to abnormal shoulder motion patterns that occur from trying to avoid the pain or muscle weakness. A successful repair is only as good as the ability to rehabilitate the entire body.

We ask our patients to dedicate at least one hour a day to their physical therapy and rehabilitation programs until they have regained full motion and strength. We also encourage them to spend at least one hour a day focusing on a safe strength training and fitness program for the rest of their life. Our goal is to help you play sports until the end of your lifespan. Most often patients stay at our clinic at least one week after their surgery; some stay as long as two to three months working with our physical therapy team for two hours every day for both rehabilitation and fitness training. Our goal is to return you to sports fitter, faster, and stronger than you have been in years.





5 Your attitude to treatment

We cannot make a promise or guarantee your outcome but we can tell you that the majority of patients do extremely well. Those that have a complication, problem, or failure have been returned to a successful outcome after the failure has been treated. We have learned that the happiness and motivation of the patient who enters into the clinic environment and into the operating room affect the whole team and the outcome. We encourage you to bring your positive attitude and watch how it influences your outcome.

The beauty of Stone Shoulder Program reconstruction procedures is that should one of the procedures fail or tear earlier than expected, in most cases, it can be fixed, repaired, or replaced as needed. The attitude of the patient plays a large role in the speed of their recovery. Patients who keep their head in a good place and have a good spirit about it, tend to do the best.

Conclusion

Using early biologic repair solutions when possible is the way forward for shoulder treatments. We are certain that many of the shoulder replacements done in the near future and beyond will be biologic, not bionic. Avoiding plates and screws for clavicle fractures has been an enormous advantage for our patients who want to rapidly return to sports and work.

We hope you have a better idea of whether a Stone Shoulder Program solution is right for you.

If you can see yourself as an athlete in training and not a patient in rehab we can achieve the goal to return you to a fitter, faster, stronger version of you.



Connect with Dr. Stone to find out more about your treatment options



Book An Appointment



**Sarah H,
Cyclist & Swimmer**

Treatment: *Surgical arthroscopy with rotator cuff repair, chondral repair and debridement*

Sarah slipped on ice while biking home from work landing on her shoulder in 2010. She underwent therapy elsewhere which failed, leaving her with severe loss of motion. Her MRI confirmed both her frozen shoulder and, unfortunately, a rotator cuff tear. This makes it challenging since the treatment for frozen shoulder requires immediate, extensive mobilization but for rotator cuff repair, a more limited approach.

She underwent rotator cuff repair and debridement of the scar tissue. An articular cartilage lesion was found at surgery and repaired.

Three months after surgery she had regained 50% of motion and continued to improve over the next year, going on to complete the Alcatraz Swim with the Centurions race across the infamous Alcatraz Channel in San Francisco.

Watch Sarah's story

